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1	and cloud- or server-based back ends, I'm I'm not
2	sure how old that would be. I'm not sure it would be
3	fair to call it relatively new. That's the kind of
4	thing that, you know, technologists could debate over
5	for for a while.
6	Q So prior to the introduction of Android in 2007,
7	had Sun ever licensed Java SE for use in any device
8	other than a desktop or a server?
9	A Sorry, prior to?
10	Q The release of Android in 2007.
11	A Okay. Sorry, I feel like I've lost the question.
12	Prior to
13	Q The release of Android in 2007, had Sun ever
14	licensed Java SE for use in a device other than a
15	desktop or a server?
16	MS. LEWIS-GRUSS: Objection.
17	THE WITNESS: Java SE well, yes.
18	BY MR. MULLEN:
19	Q What devices were those?
20	A Well, we have I feel like sorry, the
21	question I feel like I'm missing something in the
22	question because it's, like, something we have talked
23	about a lot a lot, right? Like, there's hundreds of
24	customers who have licensed Java SE for an embedded
25	case, whether it be an appliance or a device or

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1	whatever, prior to prior to 2011, yeah.
2	Q So I'm asking prior to 2007, though.
3	A Prior to 2007, no.
4	Q Prior to when Android came out, had strike
5	that.
6	Prior to the release of Android in 2007, had Sun
7	licensed Java SE for use other than in a desktop or a
8	server?
9	A So I would have to check in on that, but I
LO	I like, for a specific example, I'm sure they would
L1	have prior to 2007.
L2	Q Well, what specific example are you thinking of?
L3	A Well well, that's just it. I would have to
L 4	I would have to go and look. Like, there has to have
L 5	been embedded cases going back to to the beginning of
L 6	Java. I mean, Java SE started as a something that
L7	was targeted to set-top boxes, right? So, I mean,
L 8	Java SE, sure, has been licensed for nondesktop-server
L 9	usage since the beginning of its existence.
20	Q Returning back to Exhibit D here, is it your
21	opinion that Android has harmed the market for Java in
22	cameras?
23	A In cameras. So so what I know is that there
24	are there are Android-based cameras, and if there are
25	Android-based cameras, that those could have been

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1	Java-based cameras. And I know at one point, I
2	thought it was I don't see it on this list, but
3	I know, at one point, sales had been working on a a
4	camera manufacturer, but I would have to go and look at
5	the specific which specific salesperson and which
6	specific customer it was, but I believe it was
7	that they were looking at doing a deal with. That was a
8	while ago.
9	Q Other than what you just testified to, is there
10	any basis for your opinion that Android has actually
11	harmed the market for Java in cameras?
12	A Yes. To again well, sorry, other than what
13	I already testified yeah. To the degree that Android
14	is there, Java could be there, yeah.
15	Q Is it possible that Android is used in cameras
16	because Android offers some technical advantage to Java?
17	A I don't believe so.
18	Q You don't believe that Android offers any
19	technical advantages to Java?
20	A I think of Android as an application development
21	framework, just like Java is an application development
22	framework, and in the conversations that I've had with
23	customers, with sales, with with press, you know,
24	based on what I read in terms of white papers and what
25	people are doing with Android, I that's my belief, is

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1	that they see see them both as application
2	development frameworks.
3	Q But Android is also an operating system; correct?
4	A It maybe it includes an operating system, but
5	it's easy to get an operating system.
6	Q Okay. Has Oracle actually lost any deals in the
7	market for cameras to Android?
8	A So so you are saying, am I aware of a case
9	where a salesperson had a specific Android versus Java
LO	showdown and we lost like, I'm not aware of of
L1	anything that specific, but, again, what I am aware of
L2	is a that there is Android on cameras, and so Java
L3	could also be on that camera.
L 4	Q And what is the basis for your opinion that just
L5	because Android is on the camera that Java could be on
L 6	the camera?
L 7	A Be because people believe that they are the
L 8	same thing; because application developers see Android
L 9	as Java. We see, over and over and over again in job
20	openings, we see it in marketing materials, people
21	referring to the noun "Android Java" as if it's a thing
22	when it's not.
23	Q Do you believe that Android has harmed the market
24	for Java in voice-over-IP phones?
25	A So we I know we have and I know this

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1	because every time you reboot your
2	time I reboot my phone when I'm in our Santa Clara
3	office, I see I see the Java logo appear, and so to
4	the degree that there is Android in voice-over-IP
5	devices like those, yes.
6	Q But I'm asking whether Android has actually
7	harmed the market for Java in voice-over-IP phones?
8	A Yes. And I actually don't see voice over IP.
9	I'm hoping that we have I don't see we have the do
10	you know what page oh, okay, there it is. It's
11	funny we don't oh, there it is. I was going to say,
12	it's funny we don't have but we do.
13	Yeah, so I I would have to check with sales to
14	see if they were aware of specific Android-related VoIP
15	phones that they had lost opportunities to.
16	Q Sure.
17	You are not aware of any harm that Android has
18	caused to Oracle in the market for voice-over-IP phones?
19	MS. LEWIS-GRUSS: Objection.
20	THE WITNESS: Yeah, so in this moment, I'm not
21	aware of any cases where we have lost a deal to to
22	Android.
23	BY MR. MULLEN:
24	Q And are you aware of any harm that Android has
25	caused to Oracle in the market for printers?

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1	A Yes. So that goes back to the example,
2	and so, you know, what we see what we saw there is
3	basically price price erosion where we we were
4	expecting, based on other deals with other printer
5	companies, a certain price point, but this customer had
6	been using Android and using that as leverage, and so we
7	settled for what I believe is a much lower price.
8	MS. LEWIS-GRUSS: We have now been going over two
9	hours. It's about two hours and three minutes on the
10	record, so I would just ask that you begin to wrap up
11	your line of questioning.
12	MR. MULLEN: Yeah, I'm almost done.
13	Q Is it your opinion that Android has harmed the
14	market for GPS devices for Java?
15	A Yeah, so there's a there's there's a couple
16	ways we could look at that, is that, you know, the GPS
17	market is largely Android-phone-based, I guess, to some
18	degree. So but, yeah, I mean, we we had a license
19	deal with Again, similar to the phone,
20	this is something I know as a consumer really well
21	because I turn on my and there would be be the
22	Java logo, but to the degree that there is there are
23	Android GPS devices, we we should be there, and
24	similar to the VoIP phone, I'm not aware of a specific
25	example.

Page 95 And just what product does Oracle license in the 1 2 VoIP phone world? 3 So I believe -- well, so I know is ME, but I -- you know, again, it was -- that was -- we have had 4 5 that deal for a fairly long time. Like, I remember phones with -- with Java on it, I want to 6 7 say, almost ten years ago, and so with today's 8 processing power, it could easily be SE, right? SE, ME, it wouldn't matter. They are interchangeable at that 10 point for that type of use. Is it your belief that Android has harmed the 11 12 market for Java in vending machines and kiosks? 1.3 Α Yeah, so in -- so kiosks, let's see what examples 14 we have here. So -- so kiosks is -- this is more of a 15 Java SE case, because, typically, a kiosk is going to be 16 running a -- kind of a desktop class machine. It's 17 basically a desktop computer in a box, right? And so we -- and the reason I'm somewhat more familiar with 18 19 this market -- or, yeah, I'm quite familiar with this 20 market is because a lot -- there's a lot of compliance 21 cases around the BCL where people are using Java in the 22 kiosk and -- and -- anyway. 2.3 So, yeah, and so to the degree that -- that these 24 companies are using Android instead of Java, we have 25 been harmed.

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1	Q But are you aware of any such instance?
2	A So yeah, so I'm not aware of a specific
3	instance. I I do know, though, in some of the
4	conversations we have had around compliance, that sales
5	has mentioned that as a point of negotiation, that they
6	are looking at going Android which makes the go-forward
7	part of the deal like the go-backward part of the
8	deal is secure, but the go-forward is always in
9	question. And software suffers from price erosion.
LO	Q Is it your opinion that Android has harmed the
L1	market for Java in payments at point-of-sale terminals?
L2	A Yeah, so but I'm going to kind of file that
L3	with you know, with VoIP and GPS.
L 4	I mean, the company that I worked with the most
L 5	on point of sales we we have acquired, but we had
L 6	a an extensive licensing Java licensing deal with
L 7	a company called that made point-of-sale systems,
L 8	and we bought them a couple years ago. I can't recall
L 9	personally getting involved in in other
20	point-of-sale-type deals, but, again, you know, this is
21	a a sales thing, and to the degree that that they
22	are using Android, they could be using Java.
23	Q But you are not aware of any specific examples?
24	A No. I would have to check with sales.

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Other than what you have testified to today, is

25

Q

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there any other bases for your opinion that Android has harmed the market for Java in any of these markets that we have just discussed?

A Well, so we have talked about the -- the loss of revenue, like, directly and, like, from, you know, where we had a licensee and then didn't. We talked about where there's market niches where we should be there and can't even get started, like with wearables.

But the other part of the harm here has to do with developers, right? And the fact that as developers transition and -- and start writing for Android, they kind of get stuck there, right? And so then getting them back to the compliant and compatible Java ecosystem that companies like IBM and Red Hot and SAP and all these other companies that have all this technology, there's -- there's harm there as well.

Q And has Oracle actually lost developers to Android?

A So -- so it depends -- well, when -- the way you say "lost" there, right? So every developer that's writing on Android is -- is a developer that's not writing on Java. So, yes, we have lost developers.

Q But the developers who write for Android are using the Java programming language; correct?

A They are using the language, yeah.

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3	
4	I, the undersigned, a Certified Shorthand
5	Reporter of the State of California, do hereby certify:
6	That the foregoing proceedings were taken before
7	me at the time and place herein set forth; that any
8	witnesses in the foregoing proceedings, prior to
9	testifying, were placed under oath; that a verbatim
10	record of the proceedings was made by me using machine
11	shorthand which was thereafter transcribed under my
12	direction; further, that the foregoing is an accurate
13	transcription thereof.
14	I further certify that I am neither financially
15	interested in the action nor a relative or employee of
16	any attorney or any of the parties.
17	IN WITNESS WHEREOF, I have this date subscribed
18	my name.
19	
20	Dated: April 11, 2016
21	
22	
	Constitution
23	
24	RACHEL FERRIER
25	CSR No. 6948